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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,146	02/06/2002	Akihiko Kuriyama	70840/56923	7505

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EXAMINER

PRITCHETT, JOSHUA L

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 09/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/068,146	KURIYAMA ET AL.	
	Examiner	Art Unit	
	Joshua L Pritchett	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-20 is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-13 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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DETAILED ACTION

This action is in response to Amendment A filed July 14, 2003. Claims 1 and 6 have been amended and claims 14-20 have been added as requested by the applicant.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 6, 10-11 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Driscoll.

Regarding claim 1, Driscoll discloses a convex mirror (810) for reflecting incident light representing an object, the convex mirror having a shape of solid revolution (Fig. 8A); an imaging mechanism for taking an image represented by reflected light from the convex mirror (square box); and an optical member (805) for guiding the incident light toward the convex mirror and guiding the reflected light toward the imaging mechanism (Fig. 8A). Driscoll further discloses the imaging mechanism disposed on the opposite side of the convex mirror with the

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optical member interposed therebetween (Fig 8A). Driscoll further discloses the optical member contacting the convex mirror (Fig. 8A).

Regarding claim 2, Driscoll discloses the optical member having a concave portion, which is in close contact with the convex mirror so as to cover the convex mirror (Fig. 8A).

Regarding claim 6, Driscoll discloses the optical member has a plane for releasing the reflected light and the plane has a flat surface or a curved surface projecting towards the convex mirror (Fig. 8A).

Regarding claim 10, Driscoll discloses the optical member having an outer circumferential surface formed so as to cause incident light to be incident thereon in a direction normal to the outer circumferential surface (Fig. 8A). The light by incident the optical member from any angle within the field of vision as defined in Figure 1.

Regarding claim 11, the outer surface at the center portion of the optical member (805) has been taken as a reflected light releasing face.

Regarding claim 13, Driscoll discloses an optical member in close contact with the convex mirror so that the optical member covers the convex mirror (Fig. 8A). Driscoll further discloses attaching an imaging mechanism so that the reflected light is incident on the imaging mechanism (Fig. 8A).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Driscoll in view of Hawryluk (US 5,745,286).

Driscoll teaches the invention as claimed including the use of the interior portion of the concave portion as the convex mirror but lacks reference to the mirror being a thin film. Hawryluk teaches the use of thin film aluminum as a thin film reflective layer used to create a mirror (col. 3 lines 18-19). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the thin film aluminum taught by Hawryluk as the convex mirror in the Driscoll invention for the purpose of extending the application of the imaging system into the ultraviolet region of the light spectrum.

Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Driscoll.

Regarding claim 8, Driscoll discloses the imaging mechanism including a lens (230) for converging the reflected light, and an imaging section (250) for taking an image represented by the reflected light converged by the lens. Driscoll does not teach the lens being in close contact with the optical member, but it has been held that it is within the ability of one ordinarily skilled in the art to make a component in close contact with another component. It would therefore also be within the skill of one of ordinary skill in the art to have the lens be in close contact with the optical member.

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Regarding claim 9, Driscoll teaches a lens (240) made of SFL6. It would have been obvious to make the other lens of the Driscoll invention out of the same material. SFL6 is known to have a refractive index of 1.8 (Braat US 4,986,641). Driscoll further teaches the optical member being made of a transparent material. SiO_2 is a commonly known and used transparent material used in optics. The refractive index of SiO_2 is well known to be 1.48. It would therefore have been obvious and within the ability of one ordinarily skilled in the art to make the optical member of Driscoll have a refractive index smaller than the refractive index of the lens of Driscoll.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Driscoll in view of Tsunashima (US 6,169,637).

Driscoll teaches the invention as claimed but lacks the releasing face having a focal point. Tsunashima teaches a releasing face (20) having a focal point (between elements 25 and 14 in Fig. 1). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the releasing face of the Driscoll invention have the light focusing ability taught by Tsunashima for the purpose of creating a more compact lens assembly because the light beams would require least physical distance to converge onto the imaging plane.

Allowable Subject Matter

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Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 14-20 are allowed.

The following is an examiner's statement of reasons for allowance: Claim 14 is allowable over the prior art of record because the Driscoll reference does not include an integral converging lens and to make the converging lens of the Driscoll reference integral would require the removal of the Driscoll correcting lens, which would make the Driscoll invention inoperable. The remaining claims depend either directly or indirectly from claim 14 and are therefore also allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's arguments filed July 14, 2003 have been fully considered but they are not persuasive.

On page 5 of Amendment A, applicant argues that Driscoll lacks the imaging mechanism and the convex mirror being part of the same structure. There is no claim limitation in claim 1

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that states that the imaging mechanism and the convex mirror must be of the same structure, therefore the examiner feels the rejection is proper.

On page 5 of Amendment A, applicant argues that Driscoll lacks the plane for releasing the reflected light on an optical member. The claim states that the plane may be part of a "curved surface." Fig. 8A of Driscoll shows that the "curved surface" of the optical member (805) and a plane would be represented by any line tangent to the curved surface of the optical member (805), therefore the examiner feels the rejection is proper.

On pages 6-7 of Amendment A, applicant argues that the remaining claims are allowable because claim 1 is allowable. The examiner disagrees with the allowability of claim 1, please see the arguments and rejections above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua L Pritchett whose telephone number is 703-305-7917.

The examiner can normally be reached on Monday - Friday 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A Dunn can be reached on 703-305-0024. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

JLP

A handwritten signature in black ink, appearing to read "Drew A. Dunn", with a stylized flourish at the end.

DREW DUNN
SUPERVISORY PATENT EXAMINER